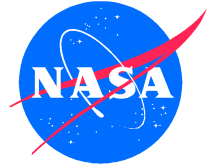


Electron Microscope Uncovers Egyptian Faience

Cleveland Museum of Art



TECHNOLOGY

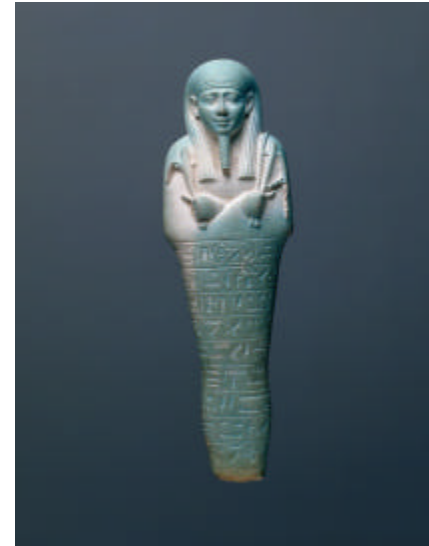
Unlike a light microscope, the Scanning Electron Microscope (SEM) magnifies samples to many thousands times their original size, allowing researchers to look into the tiny world of microspace.

COMMERCIAL APPLICATION

- ◆ The microscope can scan small samples from artifacts for museum research.
- ◆ Determines microscopic composition of various materials.

SOCIAL / ECONOMIC BENEFIT

- ◆ Appreciation for the technical mastery of ancient cultures, particularly the ancient Egyptians
- ◆ Clearer comprehension of secret and ancient processes
- ◆ Ability to reproduce ancient Egyptian glazing processes
- ◆ Ensure top quality by screening materials for possible failures
- ◆ Industries can use an SEM to determine possible compositional failures of material



A funerary figurine:
*Shawabty of King
Nectanebo II, Late
period, Dyn. 30, reign
of Nectanebo II (about
360-342 bc).*

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NASA APPLICATIONS

- ◆ The SEM is a standard working tool used for material characterization, quality control and failure analysis.
- ◆ The Material Science Division's collaboration with the Cleveland Museum of Art has helped to identify the use the composition of Egyptian blue, the world's first synthetic pigment

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